

IN THE CLAIMS:

Please amend claims 1, 5, 11-13 and 20 and cancel claim 10, without prejudice or disclaimer, as follows:

1. (Currently Amended) A method for controlling data flow inside a network switch, said method comprising the steps of:

determining if a quantity of queued data for a port, of a plurality of ports of the network switch, has exceeded a first predetermined threshold;

disabling, within the network switch, a data flow to the port from other ports of the plurality of ports if the quantity of queued data is determined to have exceeded the first predetermined threshold; and

re-enabling the data flow to the port from the other ports of the plurality of ports when the port satisfies a predetermined spatial requirement and a predetermined temporal requirement;

wherein the predefined temporal requirement is met when a timer, set during the disabling step, has exceeded a predetermined amount of time.

2. (Original) A method for controlling data flow in a network switch as recited in claim 1, wherein the re-enabling data flow step further comprises the steps of:

determining if the quantity of queued data for the port is less than a second predetermined threshold;

determining if a predetermined amount of time has passed, if it is determined that the quantity of queued data for the port is less than the second predetermined threshold; and

re-enabling the data flow if the quantity of queued data for the port is less than the second predetermined threshold and the predetermined amount of time has passed.

3. (Original) A method for controlling data flow in a network switch as recited in claim 1, wherein the first predetermined threshold further comprises a high water mark for the port.

4. (Original) A method for controlling data flow in a network switch as recited in claim 1, wherein the second predetermined threshold further comprises a low water mark for the port.

5. (Currently Amended) A method for controlling data flow in a network switch, said method comprising the steps of:

defining a preferred operational range for a port, of a plurality of ports of the network switch;

defining a quasi-congested operational range for the port;

defining a congested operational range for the port;

disabling, within the network switch, a data flow to the port from other ports of the plurality of ports when the port approaches the congested operational range; and

re-enabling the port for receipt of data from other ports of the plurality of ports when the port reaches the preferred operational range and satisfies a predetermined temporal requirement;

wherein the predefined temporal requirement is met when a timer, set during the disabling step, has exceeded a predetermined amount of time.

6. (Original) The method for controlling data flow in a port of a network switch as recited in claim 5, wherein the step of defining a preferred operational range further comprises defining the preferred operational range as the range below a predetermined low water mark for the port.

7. (Original) The method for controlling data flow in a port of a network switch as recited in claim 5, wherein the step of defining a congested operational range further comprises defining the congested operational range as the range above a predetermined high water mark for the port.

8. (Original) The method for controlling data flow in a port of a network switch as recited in claim 5, wherein the step of defining a quasi-congested range further comprises defining the quasi-congested range as the range between a low water mark and a high water mark.

9. (Original) The method for controlling data flow in a port of a network switch as recited in claim 5, wherein the step of disabling data flow to the port when the port approaches the congested operational range further comprises the steps of:

determining if the port is operating in the congested operational range for the port;
and

disabling data flow to the port if it is determined that the port is operating in the congested operational range for the port.

10. (Cancelled)

11. (Currently Amended) ~~The A~~ method for controlling data flow in a ~~port of a network switch as recited in claim 10,~~ network switch, said method comprising the steps of:

defining a preferred operational range for a port, of a plurality of ports of the network switch;

defining a quasi-congested operational range for the port;

defining a congested operational range for the port;

disabling, within the network switch, a data flow to the port from other ports of the plurality of ports when the port approaches the congested operational range; and

re-enabling the port for receipt of data from other ports of the plurality of ports when the port reaches the preferred operational range and satisfies a predetermined temporal requirement;

wherein the step of re-enabling data flow to the port when the port reaches the preferred operational range further comprises the steps of;

determining if the port is operating in the preferred operational range for the port;

determining if a predetermined amount of time has expired; and

re-enabling data flow to the port if it is determined that the port is operating in the preferred operational range for the port and the predetermined amount of time has expired; and

wherein the step of determining if a predetermined amount of time has expired further comprises the steps of:

defining a predetermined amount of time;

starting a timer when the port enters the preferred operational range; and

determining if the timer has exceeded the predetermined amount of time.

12. (Currently Amended) A method for controlling data flow in a network switch, said method comprising the steps of:

monitoring a quantity of data queued to be transmitted by a port of a plurality of ports of the network switch;

determining if the quantity of data queued has exceeded a high water mark;

disabling, within the network switch, a data flow into a port queue from other ports of the plurality of ports if the quantity of data queued is determined to have exceeded the high water mark;

determining if the quantity of data queued has fallen below a low water mark;

determining if a predetermined amount of time has passed, if the quantity of data queued has fallen below the low water mark; and

re-enabling data flow into the queue from the other ports of the plurality of ports, if it is determined that the quantity of data has fallen below the low water mark and the predetermined amount of time has passed;

wherein the step of determining if the predetermined amount of time has passed comprises setting a timer and determining when the timer has exceeded the predetermined amount of time.

13. (Currently Amended) An apparatus for controlling data flow in a network switch, said apparatus comprising:

means for determining if a quantity of queued data for a port, of a plurality of ports of the network switch, has exceeded a first predetermined threshold;

means for disabling, within the network switch, a data flow to the port from other ports of the plurality of ports if the quantity of queued data is determined to have exceeded the first predetermined threshold; and

means for re-enabling the data flow to the port from the other ports of the plurality of ports when the port satisfies a predetermined spatial requirement and a predetermined temporal requirement;

wherein means for disabling is configured to determine that the predefined temporal requirement is met when a timer has exceeded a predetermined amount of time.

14. (Original) An apparatus for controlling data flow in a network switch as recited in claim 13, wherein said means for determining further comprises a memory management unit.

15. (Original) An apparatus for controlling data flow in a network switch as recited in claim 13, wherein said means for determining further comprises a status location budget manager.

16. (Original) An apparatus for controlling data flow in a network switch as recited in claim 13, wherein said means for disabling data flow further comprises a status location budget manager.

17. (Original) An apparatus for controlling data flow in a network switch as recited in claim 13, wherein said means for re-enabling data flow further comprises a status location budget manager.

18. (Original) An apparatus for controlling data flow in a network switch as recited in claim 13, wherein said first predetermined threshold further comprises a high water mark.

19. (Original) An apparatus for controlling data flow in a network switch as recited in claim 13, wherein said predetermined spatial requirement further comprises a low water mark.

20. (Currently Amended) An network switch comprising:
at least one data port interface connected to at least one port, in communication with a plurality of port interfaces of the network switch;

at least one queue in connection with the at least one data port interface for receiving data transmitted to the at least one data port interface from the plurality of port interfaces; and

a memory management unit in connection with the at least one queue,
wherein the memory management unit disables, within the network switch, a data flow to a queue from the plurality of port interfaces when a level of data in the queue reaches a predetermined threshold, and thereafter re-enables data flow to the queue from the plurality of port interfaces when the level of data in the queue reaches a second predetermined threshold and a predetermined amount of time has passed;

wherein the memory management unit is configured to determine that the predetermined amount of time has passed when a timer has exceeded the predetermined amount of time.

21. (Original) A network switch as recited in claim 20, wherein said first predetermined threshold further comprises a high water mark.

22. (Original) A network switch as recited in claim 20, wherein said second predetermined threshold further comprises a low water mark.

23. (Original) A network switch as recited in claim 20, wherein said memory management unit further comprises a status location budget manager.